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Kim Ogle, RCRA Project Manager
United States EPA, Region 10
1200 Sixth Avenue
Seattle, WA 98101

Re: October 15, 2001 Progress Report
J. H. Baxter Arlington Facility
Docket No. RCRA-10-2001-0086
7026-20

Dear Ms. Ogle:

This letter provides the October 15, 2001 progress report for work completed under the Administrative Order on Consent (AOC) for the J. H. Baxter facility during the period September 16, 2001 to October 14, 2001.

SIGNIFICANT DEVELOPMENTS THIS PERIOD

This section discusses all significant developments for the referenced reporting period, including actions performed and any problems encountered relative to work required by the Order. Significant developments that occurred on this project during this reporting period are outlined below.

- Pursuant to EPA's September 10, 2001 letter on partial disapproval of the Excess Stormwater Management Work Plan (ESWMWP) we requested a meeting with EPA on Quality Assurance Project Plan (QAPP) issues. As requested by EPA in the September 10, 2001 letter we submitted a written response prior to the meeting in a Memorandum dated September 25, 2001 *Re: Clarifications on Enclosure C.*

- On September 14, 2001 we requested an extension of the submittal date for the ESWMWP QAPP to October 15, 2001. On September 17, 2001 EPA approved the request for the extension.

- The meeting regarding QAPP issues was held on September 27, 2001. At the meeting it was agreed that Hart Crowser would revise the QAPPs as follows:

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- The QAPP for the ESWMWP would be revised to incorporate the sampling and analysis plan into the QAPP and would be resubmitted on October 15, 2001.

- The QAPP for the Site Investigation would be revised with the Site Investigation Work Plan. Discussion of DQOs in the QAPP may cross-reference other sections of the Work Plan. As part of the revisions we need to propose a reasonable amount of full CLP-type data validation for the Site Investigation data to allow appropriate decisions to made relative to the level of certainty in our site understanding.

- We will use document control format in all parts of the Sampling and Analysis Plan (SAP) and QAPP documents and follow the EPA QA/R-5 requirements.

- We do not need to revise the Drinking Water Sampling QAPP at this time.

- Plans have been made to meet and review the Site Investigation Work Plan on Thursday, October 25, 2001 (1:00 pm to 5:00 pm) and on Friday, October 26, 2001 (9:00 am to 5:00 pm) at EPA offices.

- We completed infiltration tests at the facility on September 14, 2001 as part of the hydrologic analysis for the stormwater infiltration system. The results of the testing are summarized in the attached memorandum.

- During the Week of October 1, 2001 Baxter conducted their quarterly monitoring under the State Waste Discharge Permit which included groundwater sampling, lysimeter sampling, and sampling of 2 drains in the Untreated Pole Storage Area.

ANTICIPATED DEVELOPMENTS NEXT PERIOD

This section discusses developments anticipated during the next reporting period and includes a schedule of actions to be performed.

- A revised Excess Stormwater Management Work Plan QAPP is being submitted with this Progress Report for EPA review. As we are proceeding with the system design, we hope to receive EPA comments on the QAPP within the next month.

- We expect to resolve issues with the Site Investigation Work Plan at the meetings to be held on October 24 and 25, 2001, and to discuss a process and schedule for the follow-up activities associated with finalizing the Site Investigation Work Plan.

- We are continuing work on the Excess Stormwater System Design. As the design plans are completed we would like to meet with EPA's technical team to review the design before beginning construction. We anticipate completing our draft design within the next few weeks.

ANTICIPATED PROBLEMS AND PROBLEM RESOLUTION

This section discusses anticipated problems, and planned resolution of past or anticipated problems.

There are no anticipated problems to report.

OTHER INFORMATION

Any other information relevant to the Order is discussed in this section, including results of any sampling or testing completed within the reporting period.

There is no other information to report at this time.

We trust this letter meets the intent of the Progress Report per Paragraph 71 of the AOC. Please let us know if you have any questions or comments on the work conducted to date or contents of this report.

Sincerely,

HART CROWSER, INC.

Lori Herman

LORI HERMAN
Principal Hydrogeologist

Attachment A: Memorandum Re: Surface and Subsurface Infiltration Testing Results, J. H. Baxter Facility

cc: Georgia Baxter, J. H. Baxter
Sara Beth Watson, Steptoe and Johnson

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ATTACHMENT A
MEMORANDUM RE:
SURFACE AND SUBSURFACE INFILTRATION TESTING RESULTS
J.H. BAXTER FACILITY

MEMORANDUM

DATE: October 15, 2001

TO: Project File

FROM: Owen Reese, Hart Crowser Inc.

RE: **Surface and Subsurface Infiltration Testing Results**
J.H. Baxter Arlington Facility
7026-10

CC: Lori Herman, Hart Crowser Inc.

This memorandum documents the surface and subsurface infiltration testing conducted at J.H. Baxter's Facility in Arlington, Washington on September 14, 2001. Infiltration rates were measured at 5 surface locations and two subsurface locations. Infiltration test locations are shown on Figure 1 (attached). The purpose of infiltration testing was to refine the hydrologic/runoff model for the site and determine design parameters for an infiltration system to handle effluent from the Excess Stormwater Management System (ESMS).

WORK PERFORMED

Infiltration rates were measured with a double ring infiltrometer in general accordance with ASTM D 3385-94. Prior to performing the test the rings were installed and filled with water to create saturated soil conditions. Infiltration rates were monitored until they had stabilized (usually after 3 readings). The double ring infiltrometer is a localized measurement of short-term infiltration rates and as such is only an indicator of infiltration capacity.

Infiltration tests were performed at the following locations as indicated in the ESMS Workplan:

- Bottom of the Main Treatment Area Ditch
- Treated Pole Storage Area
- Untreated Pole Storage Area
- Proposed Subsurface Infiltration Location in the Untreated Storage Area
- Proposed Surface Infiltration Location in the Existing Retention Pond

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We were unable to conduct infiltration tests at two of the locations indicated in the ESMS Workplan: the bottom of the treated pole storage yard ditch or the high vehicle travel area (roadway). We were unable to test the bottom of the treated pole storage yard ditch because it contained standing water or was lined with riprap. The high vehicle travel area was highly compacted and we were not able to install the double rings. Forms documenting these deviations from the Quality Assurance Project Plan are attached. To substitute for the missing data the high vehicle travel areas will be assumed to be impervious and the rates measured in the main treatment area ditch will be used for the treated pole storage area ditch.

Test pits for the subsurface tests were completed at 4 feet. Two additional test pits (TP-3 and TP-4) were completed to log subsurface soils; infiltration rates were not measured in these locations. In the two subsurface infiltration tests, infiltration was very rapid and we were unable to fill both the inner and outer rings to a depth of six inches despite using Baxter's water truck discharging at over 5 gallons per minute. Infiltration rates were measured with only the inner ring containing water; outer ring soils were saturated.

MEASURED INFILTRATION RATES

Measured infiltration rates are shown in Table 1, measured rates ranged from 0.43 inches per hour in the untreated pole storage area to over 80 inches per hour in the subsurface soils.

Infiltration rates from the surface tests were, in general, higher than expected particularly in the tests done in the pole storage areas. The dry summer conditions had cracked the layer of silt in the untreated storage area and main treatment area ditch. The cracked surface remained present during the test and infiltration through the cracks in the silt may have resulted in higher infiltration rates than would be experienced during the wet winter months. The rates are probably more representative of the underlying compacted gravels. With an appropriate factor of safety of 10 applied, the rates can be used for refining the hydrologic model. The factor of safety should be applied to S-1, S-2, and S-4.

Infiltration rates in the ditches will also be estimated by monitoring the staff gauges. Rates determined by this approach will include the effect of a saturated silt layer.

DESIGN INFILTRATION RATES

Infiltration rates were measured at two potential locations for the treated effluent infiltration system: the landfill retention pond (S-3 and S-5) and an area of untreated pole storage near the pole peeler (TP-1 and TP-2) shown in Figure 1 (attached). The third location identified in the ESMS workplan (in the Southeast corner of the untreated pole storage area) was eliminated because of a seasonal high groundwater table.

Infiltration rates in both locations are suitable for an infiltration system. For design purposes, measured infiltration rates are decreased by a factor of safety to allow for subsurface heterogeneity, testing techniques, infiltration facility geometry, and siltation. The Stormwater Management Manual for Puget Sound (Ecology 1992), as adopted by the City of Arlington, requires a minimum factor of safety of 2 and also published maximum infiltration rates for each textural class of soils. In determining design infiltration rates we used the lower of the measured rate corrected by a factor of safety of 2 and the maximum infiltration rate for the soil type. The resulting design infiltration rates are:

- Beneath untreated pole storage area - 8.27 inches/hour (maximum allowed for sand).
- Retention pond - 2.41 inches/hour (maximum allowed for loamy sand).

The effective factors of safety for these two areas are 9.7 for the untreated pole storage area, and 3.5 for the retention pond.

REFERENCES

Ecology 1992. Stormwater Management Manual for the Puget Sound Basin, The Technical Manual. 91-75.

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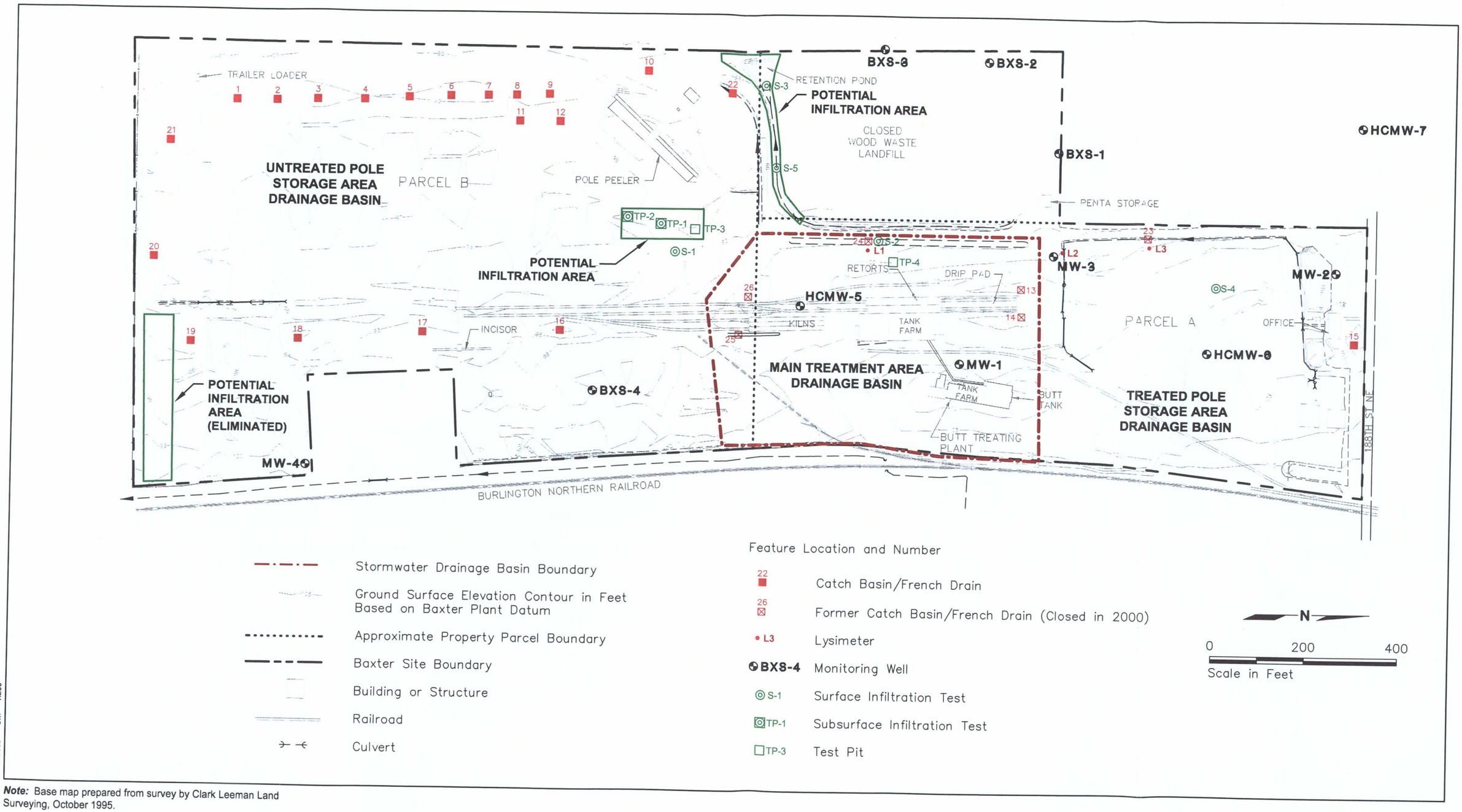
Table 1. Measured Infiltration Rates

ID	Location	Soil Surface	Infiltration Rate in inches/hour
S-1	Untreated Pole Storage Area - under poles	compacted gravel covered with 1/4" dryed cracked silt layer	0.43
S-2	Main Treatment Area - ditch bottom near L1	medium sand covered with 1/2 to 1" dryed cracked silt layer	11
S-3	Retention Pond South of Landfill	silty fine sand	5.1
S-4	Treated Pole Storage Area - under poles	compacted gravel	4.2
S-5	Vegetated Ditch South of Landfill	silty fine sand	12
TP-1	Untreated Pole Storage Area - test pit	slightly gravelly fine to medium sand	82
TP-2	Untreated Pole Storage Area - test pit	slightly gravelly fine to medium sand	78

Infiltration Tests



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Note: Base map prepared from survey by Clark Leeman Land Surveying, October 1995.

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Figure 1